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Remarks by Vice Chair James D. Boyd
California Energy Commission
National Governor's Association Summit on Alternative Transportation Fuels and Advanced Vehicles

"Beyond Petroleum: A California Perspective on Alternative Fuels and Advanced Motor Vehicle Technologies"

It's my great pleasure to be with you today to talk about a subject near and dear to my heart---alternative transportation fuels. I've been asked to share the State of California's views on emerging fuels and motor vehicle technologies. I'm here today in my capacity as the lead Energy Commissioner on transportation fuels policy for California, but also as the Co-Chair of the Western Governors' Association Advisory Committee on Transportation Fuels for the Future.

I note that California is well represented at this national conference. My dear friend and colleague, Tom Cackette, will be speaking tomorrow on California's greenhouse gas standards for motor vehicles, California's Zero-Emission Vehicle Program, and a 2050 vision for achieving California's greenhouse gas reduction goals. You also heard earlier today from Dan Sperling of the Institute of Transportation Studies at the University of California at Davis.

Let me begin by emphasizing that there are four major policy drivers which influence the selection of transportation fuels in California: the need to improve our state's air quality, fuel diversity to achieve price stability, national energy security especially in the wake of 911, and now global climate change—the biggest policy driver of all. Global climate change has presented us the most important economic and environmental challenge of the century.

In addition, the State of California has repeatedly gone on record supporting improvements in Federal Corporate Average Fuel Economy standards---an area where action is desperately needed by our national government. Most recently, in the Energy Commission's *2007 Integrated Energy Policy Report*, and dating back to 2003, the Energy Commission continues to advocate a doubling of vehicle fuel

economy in order to achieve dramatic reductions in petroleum demand and vehicle tailpipe emissions.

The State of California and the California Energy Commission in particular, have advocated fuel diversity and a portfolio approach to clean transportation fuels and vehicle technologies, since the Commission's formation during the mid-1970s. Our Governor has made his views on fuel diversity very clear, when he issued his Executive Order on Bioenergy on April 25, 2006, stating: "It is critical that we do everything we can to reduce our dependence on petroleum based fuels."

During the 2005 legislative session Governor Schwarzenegger signed into law legislation, calling upon the California Energy Commission, working in partnership with the California Air Resources Board, to develop a State Plan to increase the use of alternative fuels. The Energy Commission and the Air Resources Board recently approved the Plan. This Plan provides a "blueprint" for moving forward to increase California's share of alternative and low carbon fuels.

Recently, in the final days of our legislative session, the Governor signed a landmark bill, which appropriates over $200 million per year for an Air Quality Improvement Program, to be administered by the ARB, and an Alternative and Renewable Fuel and Vehicle Program (approximately $120 million per year) to be administered by the Energy Commission. Working together, our two agencies are well positioned to move forward with the needed state incentives for alternative fuels and vehicles.

The Governor's support of these two important pieces of legislation further demonstrates his commitment to pursue alternatives to petroleum. Despite our best efforts, however, both our state and our nation remain almost totally dependent on petroleum-based fuels for our transportation energy needs.

At a time when oil prices have surpassed $95 per barrel, the United States is consuming over 20 million barrels of oil each day; 68 percent is used in the transportation sector. In 2007, the U. S. will consume roughly 140 billion gallons of gasoline and approximately 70

billion gallons of diesel fuel. This year alone the nation will spend over $340 billion importing oil, getting dangerously close to $1 billion per day.

There is a growing recognition that oil is a finite resource, that global oil production is nearing its peak, and that the demand for petroleum in the developing world will surpass the demand in the developed world within the next three years. Also, the fact that current demand for finished fuel consistently outstrips supply impacts the price of petroleum fuels. These factors give us a sense of urgency in addressing our nation's petroleum dependence.

With this sense of urgency, the Western Governors adopted their "Transportation Fuels for the Future" Resolution, in response to uncertainty about the global supply of oil, increasing concerns over global climate change, and the urgent need to diversity our transportation energy sources away from the nation's addiction to oil. California Governor Arnold Schwarzenegger joined Governor Schweizter of Montana, Governor Henry of Okalahoma, Governor Rounds of South Dakota, Governor Huntsman of Utah, and Governor Gregoire of the State of Washington as the lead governors for this WGA Initiative.

The WGA Resolution directed the Western Governors Association to appoint a task force and to develop a policy road map for alternative fuels in the West. This Resolution further directed the states to promote "the use of regionally produced clean fuel substitutes to enhance the local, regional, national, and global environment."

The Western Governors further stressed the need to promote alternative transportation fuels that simultaneously address global climate change and oil usage. A number of specific actions are being considered by the Western states which would:

- Establish measurable goals to chart a state's progress on alternative fuels development;

- Demonstrate state leadership in the procurement of alternative fuel vehicles for state government fleets;

- Ensure that these fleet vehicles actually use the alternative fuels;

- Identify and seek state and federal funding for critical research and development options;

- Consider regional demonstrations of those fuels which are produced and consumed within the Western region (e. g. domestically produced biofuels); and

- Promoting vehicle fuel economy at the national level by setting a positive example in state fleet operations for the public to follow.

In its soon to be released report to the Western Governors, the WGA Advisory Committee is underscoring the need for individual states to demonstrate leadership as a way of influencing federal decision-making.

Despite our best efforts, California as a state continues to be over 95 percent dependent on petroleum fuels, consuming over sixteen billion gallons of gasoline and over 4 billion gallons of diesel fuels each year. California is the third largest gasoline consumer in the world, second only to the U. S. as a whole and China. In California, the transportation sector is also the single largest source of greenhouse gases, approaching 40 percent of the statewide total emissions.

In response to the Governor's direction, we are embarking on series of joint efforts with the ARB recommending:

- Alternative fuel goals, to be measured on a gasoline gallon equivalent basis, for the years 2012, 2017 and 2022.
  - 9 percent in 2012
  - 11 percent in 2017

  - 26 percent in 2022

- A continuing examination of the costs and benefits of alternative fuels and vehicle technologies, using the same "well to wheels" or "full fuel cycle" approach that was used in the Alternative Fuels Plan. This ongoing analysis demonstrates that alternative fuels can achieve lower carbon intensity for California's transportation fuel pool.

- Administering the needed state incentives to spur the commercial development of advanced fuels and technologies.

With the signing of funding legislation, California is now well positioned to move forward aggressively to advance our petroleum reduction, climate change, and air quality goals for the transportation sector.

On a parallel path, we are committed to fostering alternative fuels, fueling infrastructure and advanced technologies through our state RD&D programs. The State of California will embark on several new initiatives this year to fund transportation-related research, development and demonstration (RD&D) projects for clean fuels and vehicles. One notable example is the creation of a Plug-In Hybrid Center at the University of California at Davis by the Energy Commission to support the commercial development of this promising vehicle technology.

Another research effort will accelerate deployment of cleaner, more efficient heavy duty natural gas engines in Class A trucks. This project is a joint effort with the South Coast Air Quality Management District, the Port of Los Angeles, and the Port of Long Beach. This research will address heavy-duty natural gas engine emissions issues. Successfully demonstrating and deploying these engines will reduce petroleum consumption and reduce harmful emissions which are now impacting communities adjacent to the ports.

Through the Energy Commission's Public Interest Energy Research (PIER) program, we are spending up to $9 million this year and will spend up to $11 million next year for transportation

RD&D. Our new funding legislation also earmarks an additional $10 million per year for alternative fuels RD&D, with emphasis on "demonstration and deployment" of innovative fuels and vehicle technologies.

One key question remains: Which fuels and vehicle technologies show the most promise for likely success during the post-2010 timeframe? The short answer is: There is no silver bullet. No single fuel or vehicle technology has all of the desirable attributes which consumers want and need. There are often price and performance tradeoffs. The success of most alternative fuels in both the light- and heavy-duty markets continue to be driven by three factors: the convenience of fueling infrastructure, vehicle performance, and relative price to the consumer (when compared to vehicles which operate on gasoline and diesel fuels).

We see the future of biofuels as a bright one, especially when waste streams can be effectively used to produce these fuels domestically. We have only to note the significant investment of major oil companies and private venture capitalists in new fuel formulations, in response to California's Low Carbon Fuel Standard. Also, there is considerable national attention being placed on renewable transportation fuels through national RD&D priorities and the national Renewable Fuel Standard.

At the same time, we are mindful of the debate surrounding "food versus fuel" competition. By using our waste streams, such as field wastes, orchard pruning, dairy manure, food processing wastes, forest debris, and urban green wastes as a source of fuel production, this issue can be avoided.

In addition, we feel it is important to address land conversion effects on agriculture, including impacts on water consumption and fertilizer use, and carbon releases from soil disturbance, in measuring the environmental impacts of emerging biofuels produced from energy crops. The importance of a "full fuel cycle" analysis cannot be overstated.

In signing his Executive Order on Bioenergy in April 2006, our Governor challenged state agencies to promote the sustainable

development of our state's biomass resources. The Bioenergy Interagency Working Group, which I chair for the Administration, is working to develop a clear and consistent state policy to address regulatory uncertainty and to improve the economics of bioenergy projects (in the form of biopower, biogas and biofuels). To quote Governor Schwarzenegger: "Turning waste products into energy is good for the economy, local job creation and our environment."

In California, blending ethanol by up to ten percent by volume is allowed by state fuel specifications. In addition, there is growing interest in blending biodiesel and renewable diesels, in the form of B-5, B-10 and B-20 blends, into diesel fuel. Substantial amounts of private risk capital are being directed toward building biofuels production facilities in California. We view these blends as important "supply enhancers" as we continue to face limits on our state's refining capacity.

In conclusion, the Governors can be a powerful force for change. The states can influence national decision-making and policy setting by setting an aggressive policy agenda, educating the general public, and by fashioning state and federal spending priorities that support alternative transportation fuels. Our message is clear: states (like California) should continue to lead by example in the pursuit of alternatives to petroleum that meet our energy supply security, fuel diversity, air quality, and greenhouse gas reduction goals.